

reels may be operable to form one continuous viewing area. For example, the display devices may be positioned so closely together as to appear to display one continuous viewing area and be operable to display a first portion of a particular image on one of the display devices comprising the continuous viewing area while displaying a second portion of the particular image on another one of the display devices comprising the continuous viewing area.

[0182] Moreover, embodiments of the present invention allow indicia to interact with one another. For example, if a first indicium representing a cat is displayed on a first display device or a first surface location of a display device and a second indicium representing a mouse is displayed on a second display device or second surface location of a display device, then the cat and mouse may become animated, and the cat may “chase” the mouse.

[0183] In one or more embodiments, when the one or more display devices forms one continuous viewing area, the slot machine may cause each reel of the slot machine to rotate to a predetermined angular position in order to form the continuous viewing area. In this way, for example, in displaying an image over more than one display device, a processor of the slot machine (e.g., processor 205 and/or reel processor 355) can communicate with the same display memories associated with predetermined display devices or predetermined surface location of a display device, and the same display memories can store predetermined portions of the larger image. Furthermore, when the reels rotate to a predetermined angular position for forming the continuous viewing area, the reels may go blank. In other words, the display devices forming the continuous viewing area may clear any symbols from their displays. In this way, there is no chance that the rotation of the reels could reveal a winning outcome where the player might claim that he should be paid. The symbols from the reels may likewise go blank in any other situation when the reels are rotated and the rotation is not part of generating an outcome. For example, the reels may go blank when the reels are rotated into position for high bandwidth communication between a processor and the reels.

[0184] In one or more embodiments, the one or more display devices 335 are exposed to a player's touch, and may serve as touch screens. The player may then interact with the display devices in any way he might interact with a touch screen. For example, a display device might display a button. The player may “press” the button by touching the surface of the display device.

[0185] In other embodiments, a transparent touch-sensitive panel separates the player from the reels, and therefore from the display devices. In such embodiments, the display devices together with the panel may act as a touch screen. A player may first touch an area of the touch-sensitive screen. A processor of the slot machine may then determine the area of the screen that the player has touched. The processor may also determine which display device is currently behind the area of the screen that the player has touched. The processor may then instruct the display memory corresponding to the display device to respond by, e.g., displaying a depressed button. The processor may also respond by, e.g., instructing the coin hopper of the slot machine to provide coins to the player if the player has just indicated his desire to cash out.

[0186] In various embodiments of the present invention, the slot machine may reveal an outcome in two or more

stages. For example, in a first stage of revelation, the slot machine shows an outcome of “bell-bell-plum” where the third reel shows that a bell symbol is at the stop right above the plum symbol. Therefore, it appears to the player that he has just missed achieving the outcome of “bell-bell-bell”. However, in the second stage of revelation, a friendly animated character, such as an angel, appears. The character may be displayed on one or more of the display devices. The character may then appear to push down on the third reel, so that it turns by one stop, leaving the player with the final outcome of “bell-bell-bell”. In this case, even though the angel is an animated character, the third reel of the slot machine may actually physically turn. Commonly-owned, copending U.S. patent application Ser. No. 10/328,116, filed Dec. 20, 2002 and entitled METHOD AND APPARATUS FOR OUTPUTTING OUTCOMES OF A SLOT MACHINE described various methods in which outcomes may be revealed to a player. The entirety of this application is incorporated by reference herein for all purposes.

[0187] In one or more embodiments at least one projection device is mounted at a fixed location within the inner cavity formed by the substantially concave inner second surface of the cylindrical surface 305 (assuming the shape of the reel is the cylindrical surface 205 and includes the inner cavity). The projection device may not be attached to the cylindrical surface 205 or to any components attached to the cylindrical surface 305. Moreover, the projection device need not be within the plane of the reel. Accordingly, the projection device can remain fixed while the cylindrical surface 205 rotates. The projection device may project at least one indicium onto the inner second surface of the cylindrical surface 305. The cylindrical surface 305 may be transparent or translucent, so that the projected image is visible to a viewer of the substantially convex first surface of the cylindrical surface 305. In this manner, the projection device may cause the at least one indicium to appear on the outer second surface. The projection device may therefore be used in lieu of the one or more display devices 335. Note that the projection device may even be mounted outside of the inner cavity, but may be operable to project one or more indicia onto the inner second surface of the cylindrical surface 305.

[0188] Alternately, the projection device may be mounted outside the inner cavity of the cylindrical surface 305 (e.g., in some embodiment the cylindrical surface 305 does not comprise an inner cavity since it forms a solid cylinder) and be operable to project indicia onto the outer first surface of the cylindrical surface 305.

[0189] In one or more embodiments, a slot machine may comprise a projector that projects indicia onto a mirror, which then reflects the indicia from the projector onto the inner second surface or outer first surface of a reel. In this way, a projector can project in a direction substantially parallel to the axis of rotation of the reels, and can project onto any one of several mirrors, each located near the center of rotation of one of the reels. The same projector can thereby project indicia onto multiple reels.

[0190] In one or more embodiments, the reel may comprise holograms instead of the one or more display devices 335. A hologram may store a number of images. A particular hologram may be revealed, for example, by shining a laser upon the hologram from a particular angle of incidence. Thus, the slot machine may maintain a number of fixed